



STIC Search Report

EIC 1700

STIC Database Tracking Number: 218285

TO: Eugenia Wang
Location: REM 6C61
Art Unit : 1745
March 22, 2007

From: Mei Huang
Location: EIC 1700
REMSSEN 4B28
Phone: 571/272-3952
Mei.huang@uspto.gov

Case Serial Number: 10/550080

Search Notes

Examiner Wang,

Please feel free to contact me if you have any questions or if you would like to refine the search query,

Thank you for using STIC services!

Mei Huang

Banks, Kendra

218285

From: EUGENIA WANG [eugenia.wang@uspto.gov]
Sent: Wednesday, March 14, 2007 3:46 PM
To: STIC-EIC1700
Subject: Database Search Request, Serial Number: 10/550080

Requester:
EUGENIA WANG (P/1745)
Art Unit:
GROUP ART UNIT 1745
Employee Number:
82927
Office Location:
REM 06C61
Phone Number:
(571) 272-4942
Mailbox Number:

Case serial number:
10/550080
Class / Subclass(es):

Earliest Priority Filing Date:

Format preferred for results:

Search Topic Information:

I'm searching for a cloth used in a fuel cell that has continuous, insulating fibers lengthwise (warp) with alternating insulating and conductive fibers woven widthwise (weft).
Special Instructions and Other Comments:

SCIENTIFIC REFERENCE BR
Sci & Tech Inf. Cntr.
MAR 15 RECD
Pat. & T.M. Office



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov



Bib Data Sheet

CONFIRMATION NO. 1436

SERIAL NUMBER 10/550,080	FILING OR 371(c) DATE 09/19/2005 RULE	CLASS 429	GROUP ART UNIT 1745	ATTORNEY DOCKET NO. 034299-666
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APPLICANTS

Renaut Mosdale, Claix, FRANCE;

**** CONTINUING DATA *******

This application is a 371 of PCT/FR04/50109 03/16/2004

**** FOREIGN APPLICATIONS *******

FRANCE 0350051 03/18/2003

IF REQUIRED, FOREIGN FILING LICENSE GRANTED**** 07/06/2006**

Foreign Priority claimed <input type="checkbox"/> yes <input type="checkbox"/> no	STATE OR COUNTRY FRANCE	SHEETS DRAWING 3	TOTAL CLAIMS 5	INDEPENDENT CLAIMS 2
35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance				
Verified and Acknowledged	Examiner's Signature	Initials		

ADDRESS

Thelen Reid & Priest
 PO Box 640640
 San Jose, CA95164-0640

TITLE

Planar fuel cell and method for the production thereof

FILING FEE RECEIVED 900	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees
		<input type="checkbox"/> 1.16 Fees (Filing)
		<input type="checkbox"/> 1.17 Fees (Processing Ext. of time)
		<input type="checkbox"/> 1.18 Fees (Issue)
		<input type="checkbox"/> Other _____
		<input type="checkbox"/> Credit

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A planar fuel cell comprising ~~including~~ an electrode-membrane-electrode assembly, wherein the membrane includes a fabric, ~~[[the]]~~ a warp fabric of which are continuous fibers in an electrically insulating material and ~~[[the]]~~ weft fibers of which alternately are fibers in insulating material and fibers in electrically conducting material, so as to form insulating areas and conducting areas, respectively.

2. (Original) The fuel cell according to claim 1, wherein the fibers in insulating material are in polymer or in inert glass.

3. (Original) The fuel cell according to claim 1, wherein the fibers in electrically conducting material are carbon fibers or stainless steel fibers.

4. (Cancelled)

5. (Cancelled)



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

- Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28

=> d his nofile

(FILE 'HOME' ENTERED AT 08:44:14 ON 22 MAR 2007)

FILE 'HCAPLUS' ENTERED AT 08:44:24 ON 22 MAR 2007

L1 1 SEA US2006228605/PN
L2 QUE FUEL(2A)CELL#
L3 QUE FABRIC# OR FIBER? OR FIBR? OR FILAMENT? OR FILIFORM?
L4 8602 SEA INSULAT?(2A)L3
L5 13951 SEA (CONDUCT? OR COND#) (2A)L3
L6 370 SEA L4 AND L5
L7 2 SEA L6 AND L2
L8 QUE ALTERNAT? OR EVERY(2A)OTHER?
L9 11 SEA L6 AND L8
L10 12 SEA L7 OR L9

FILE 'WPIX' ENTERED AT 09:02:41 ON 22 MAR 2007

L11 1 SEA US20060228605/PN
L12 42575 SEA FUEL(2A)CELL#
L13 6494 SEA INSULAT?(2A)L3
L14 9572 SEA (CONDUCT? OR COND#) (2A)L3
L15 385 SEA L13 AND L14
L16 1 SEA L15 AND L12
L17 36 SEA L15 AND L8
L18 QUE ELECTROD##
L19 10 SEA L17 AND L18
L20 QUE ELECTROD##(2A)MEMBRAN?
L21 1 SEA L19 AND L20
L22 10 SEA L11 OR L16 OR L19 OR L21

FILE 'JAPIO' ENTERED AT 09:05:54 ON 22 MAR 2007

L23 1179 SEA INSULAT?(2A)L3
L24 3517 SEA (CONDUCT? OR COND#) (2A)L3
L25 90 SEA L23 AND L24
L26 0 SEA L25 AND L2
L27 7 SEA L25 AND L8
L28 1 SEA L27 AND L18

FILE 'JICST-EPLUS' ENTERED AT 09:07:50 ON 22 MAR 2007

L29 198 SEA INSULAT?(2A)L3
L30 637 SEA (CONDUCT? OR COND#) (2A)L3
L31 40 SEA L29 AND L30
L32 0 SEA L31 AND L2
L33 1 SEA L31 AND L8
L34 0 SEA L33 AND L18

FILE 'COMPENDEX' ENTERED AT 09:09:36 ON 22 MAR 2007

L35 1042 SEA INSULAT?(2A)L3
L36 2336 SEA (CONDUCT? OR COND#) (2A)L3
L37 101 SEA L35 AND L36
L38 0 SEA L37 AND L2
L39 1 SEA L37 AND L8
L40 0 SEA L39 AND L20

FILE 'INSPEC' ENTERED AT 09:10:32 ON 22 MAR 2007

L41 120 SEA L4 AND L5
L42 0 SEA L41 AND L2
L43 13 SEA L41 AND L18
L44 1 SEA L43 AND L8
L45 7667 SEA PASCAL

FILE 'PASCAL' ENTERED AT 09:29:36 ON 22 MAR 2007

L46 35 SEA L4 AND L5
L47 0 SEA L46 AND L2
L48 6 SEA L46 AND L18
L49 0 SEA L46 AND L8

FILE 'SCISEARCH' ENTERED AT 09:30:54 ON 22 MAR 2007

L50 47 SEA L4 AND L5
L51 0 SEA L50 AND L2
L52 10 SEA L50 AND L18
L53 0 SEA L52 AND L8
L54 0 SEA L52 AND L20

FILE 'PASCAL' ENTERED AT 09:33:16 ON 22 MAR 2007
D SCA L48

FILE 'WPIX' ENTERED AT 09:34:21 ON 22 MAR 2007
D L22 AN
SEL L22 PN,APPS

FILE 'HCAPLUS' ENTERED AT 09:36:11 ON 22 MAR 2007

L55 8 SEA (WO2004-FR50109/APPS OR JP1994-96403/APPS OR
L56 11 SEA L10 NOT L55
L57 13 DUP REM L56 L28 L44 (0 DUPLICATES REMOVED)

=> fil wpix

FILE 'WPIX' ENTERED AT 09:37:36 ON 22 MAR 2007
COPYRIGHT (C) 2007 THE THOMSON CORPORATION

FILE LAST UPDATED: 19 MAR 2007 <20070319/UP>
MOST RECENT THOMSON SCIENTIFIC UPDATE: 200719 <200719/DW>
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>>> IPC Reform backfile reclassification has been loaded to 31 December
2006. No update date (UP) has been created for the reclassified
documents, but they can be identified by 20060101/UPIC and
20061231/UPIC. <<<

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<http://scientific.thomson.com/support/patents/coverage/latestupdates/>

PLEASE BE AWARE OF THE NEW IPC REFORM IN 2006, SEE
http://www.stn-international.de/stndatabases/details/ipc_reform.html and

<http://scientific.thomson.com/media/scpdf/ipcrdwpi.pdf>

>>> FOR DETAILS ON THE NEW AND ENHANCED DERWENT WORLD PATENTS INDEX
PLEASE SEE

http://www.stn-international.de/stndatabases/details/dwpi_r.html <<<

=> d l22 ifull 1-10

L22 ANSWER 1 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 2005-072770 [08] WPIX
CROSS REFERENCE: 2004-613520
DOC. NO. CPI: C2005-024835 [08]
DOC. NO. NON-CPI: N2005-062709 [08]
TITLE: Color-changing and multi-colored electroluminescent
cable for e.g. external and internal housing and
automobile decoration, comprises group of
electroluminescent filaments of different colors,
which are insulated from each other
DERWENT CLASS: A89; P81; V07; W04; X22; X26
INVENTOR: HE W
PATENT ASSIGNEE: (HEWW-I) HE W
COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 20040247262	A1	20041209	(200508)*	EN	8 [4]	G02B006-44
US 6957001	B2	20051018	(200568)	EN		G02B006-44

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 20040247262	A1	US 2004-769306	20040129

PRIORITY APPLN. INFO: WO 2003-CN662 20030813
CN 2003-236894U 20030129

INT. PATENT CLASSIF.:

IPC RECLASSIF.: F21V0008-00 [I,A]; F21V0008-00 [I,C]; G02B0006-02
[I,A]; G02B0006-02 [I,C]

BASIC ABSTRACT:

US 20040247262 A1 UPAB: 20060121
NOVELTY - A color-changing and multi-colored
electroluminescent cable, comprises core wire made of soft metal or
polymer as the central axis (9); group of electroluminescent
filaments of different colors, which are insulated from each other
and helically wound on the outer side of the axis; and transparent
and flexible polymer casing tube (11) on an outer side of the group
of electroluminescent filaments to form a flexible light emitting
cable (12).

USE - For external and internal housing and automobile
decoration, and for external decoration for advertisement, in
entertainment places and for toys, art and handicraft products and
electric and electronic equipment.

ADVANTAGE - The color-changing and multi-colored
electroluminescent cable is low in power consumption, simple in
structure, convenient for use and has long service life. The

filament can be bent into several geometrical shapes as consumers demand and is beautiful and appealing.

DESCRIPTION OF DRAWINGS - The figure is a schematic diagram illustrating the structure of the electroluminescent cable.

Electroluminescent filaments (8, 10)

Central axis (9)

Polymer casing tube (11)

Light emitting cable (12)

TECHNOLOGY FOCUS:

ELECTRONICS - Preferred Components: Each filament is connected with a programmable electronic element, respectively, and the electronic element controls each filament to emit light according to a predetermined program. The group of electroluminescent filaments (10) consists of at least 2-8 electroluminescent filaments (8). The electroluminescent filament comprises metal conductive wire as a core wire and a first electrode; medium insulating layer made of insulating mixture with improved density, coated on the core wire; light emitting layer made of light-emitting mixture with improved density, coated on the medium insulating layer; conductive layer made of conductive mixture, coated on the light emitting layer; transmission conductive wire(s) wound at interval on the conductive layer and led out as a second electrode; and color polymer casing tube on the transmission conductive wires and an outer surface of conductive layer. The medium insulating layer is a mixture coat of a flexible binder having cyanoethyl as its base and barium titanate (BaTiO_3) powder, with a thickness of 25-60 microns. The light-emitting layer is a mixture coat of a flexible binder having cyanoethyl as its base and light emitting phosphorus powder, with a thickness of 25-60 microns. The conductive layer is a semi-transparent, semi-solid viscous conductive polymer containing gold and methyl methacrylate, with a thickness of 0.05 mm or less. The transmission conductive wires have metal conductive wire(s) that are highly conductive, specially treated and not easy to break, the metal conductive wires winds, at interval, round the outer side of the conductive layer and are led out as the second electrode.

Preferred Properties: An alternating current (AC) power supply of the group of filament has a voltage of 50-300 V and frequency of 200-10000 Hz. The diameter of each electroluminescent filament is 0.5-3 mm. The diameter of the flexible electroluminescent cable is 2-20 mm. The diameter of the transmission conductive wires is 0.04-0.12 mm.

POLYMERS - Preferred Material: The conductive layer is a semi-transparent, semi-solid viscous conductive polymer comprising gold and methyl methacrylate.

FILE SEGMENT: CPI; GMPI; EPI

MANUAL CODE: CPI: A12-L03

EPI: V07-F01B4; V07-N03; W04-X03C; X22-B09; X26-G

L22 ANSWER 2 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN

ACCESSION NUMBER: 2004-671152 [66] WPIX

DOC. NO. CPI: C2004-239651 [66]

DOC. NO. NON-CPI: N2004-531885 [66]

TITLE: Flat fuel cell with an electrode-membrane-electrode assembly using a tissue membrane divided into conducting and insulating zones, for the generation of electric power for stationary, transport or portable applications

DERWENT CLASS: L03; P42; X16
 INVENTOR: MOSDALE R
 PATENT ASSIGNEE: (COMS-C) COMMISSARIAT ENERGIE ATOMIQUE; (MOSD-I)
 MOSDALE R
 COUNTRY COUNT: 107

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
FR 2852736	A1	20040924	(200466)	*	FR 20	[6]
WO 2004086548	A1	20041007	(200466)		FR	
EP 1604420	A1	20051214	(200582)		FR	H01M008-10
CN 1759496	A	20060412	(200654)		ZH	H01M008-10
JP 2006520998	W	20060914	(200660)		JA 13	
US 20060228605	A1	20061012	(200668)		EN	

ins
app

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
FR 2852736	A1	FR 2003-50051	20030318
CN 1759496	A	CN 2004-80006552	20040316
EP 1604420	A1	EP 2004-720904	20040316
WO 2004086548	A1	WO 2004-FR50109	20040316
EP 1604420	A1	WO 2004-FR50109	20040316
JP 2006520998	W	WO 2004-FR50109	20040316
JP 2006520998	W	JP 2006-505852	20040316
US 20060228605	A1	WO 2004-FR50109	
		20040316	
US 20060228605	A1	US 2005-550080	
		20050919	

FILING DETAILS:

PATENT NO	KIND	PATENT NO
EP 1604420	A1	Based on WO 2004086548 A
JP 2006520998	W	Based on WO 2004086548 A

PRIORITY APPLN. INFO: FR 2003-50051 20030318

INT. PATENT CLASSIF.:

IPC ORIGINAL: B05D0005-12 [I,A]; B05D0005-12 [I,C]; H01M0002-08 [I,A]; H01M0002-08 [I,C]; H01M0004-88 [I,A]; H01M0004-88 [I,C]; H01M0008-02 [I,A]; H01M0008-10 [I,A]; H01M0008-10 [I,C]; H01M0008-24 [I,A]; H01M0008-24 [I,C]

IPC RECLASSIF.: H01M0008-02 [I,A]; H01M0008-02 [I,C]; H01M0008-10 [I,A]; H01M0008-10 [I,C]; H01M0008-24 [I,A]; H01M0008-24 [I,C]

BASIC ABSTRACT:

FR 2852736 A1 . UPAB: 20060203

NOVELTY - Flat fuel cell incorporating an electrode-membrane-electrode assembly has a membrane comprising a tissue of which the chain fibers (31) are continuous fibers of an electrical insulating material and of which the weft fibers are alternately of insulating material fibers (31') and of fibers in an electric conducting material (32), in order to form respectively

some insulating zones (34) and some conducting zones (33).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the fabrication of this flat **fuel cell**.

USE - The flat **fuel cells**, for example with a solid polymer electrolyte, have applications in the generation of electric power of some hundreds of milliwatts to some hundreds of kilowatts for stationary applications such as power stations or boilers, for transport applications e.g. land, marine or aviation vehicles, and for portable and transportable applications e.g. telephones or portable computers.

ADVANTAGE - Simplifies fabrication of the **fuel cell** by suppressing the need to deposit vertical insulation layers. It improves performance by the contribution of a massive electronic conductor in the electric cross members. An electronic conductor size that allows an increase of the number of pairs of **electrodes** on a given surface, augmenting the **fuel cell** voltage.

DESCRIPTION OF DRAWINGS - The first two drawings show conventional **fuel cells** and the third shows a locally conducting weft.

Membrane tissue (30)

Chain **fibers** of **insulating** material (31)

Weft **fibers** of **insulating** material (31')

Weft **fibers** of **conducting** material (32)

Conducting zones (33)

Insulating zones (34)

TECHNOLOGY FOCUS:

METALLURGY - The **fibers** of electric **conducting** material are either carbon fibers or stainless steel fibers (claimed).

POLYMERS - The **fibers** of **insulating** material may be of a polymer (claimed).

CERAMICS AND GLASS - The **fibers** of **insulating** material may be of inert glass (claimed).

FILE SEGMENT: CPI; GMPI; EPI
MANUAL CODE: CPI: L03-E04G
EPI: X16-C; X16-F02

L22. ANSWER 3 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-652942 [63] WPIX
DOC. NO. CPI: C2004-233643 [63]
DOC. NO. NON-CPI: N2004-516649 [63]
TITLE: Textile sheet structure, useful as a safety
textile; interior decoration or advertising banner
comprises **conductive fibers**
with **insulating** sections or
fibers with inorganic electroluminescent
material and a selective fluorescent coating
DERWENT CLASS: A85; F02; L03; X12
INVENTOR: LENK S; MUELLER H; NEUDECK A; RICHTER K; SCHEIBNER
W
PATENT ASSIGNEE: (ITPI-N) ITP GMBH GES INTELLIGENTE TEXTILE PROD;
(TEXT-N) TEXTILFORSCHUNGSINSTITUT THUERINGEN VOGT
COUNTRY COUNT: 107

PATENT INFORMATION:

PATENT NO	KIND DATE	WEEK	LA PG	MAIN IPC
WO 2004074401	A1 20040902	(200463)*	DE 21[4]	

Sept 2, 2004
too new
PCT 06 0000
3116104

DE 10333583	A1	20040930 (200464)	DE	H05B033-12
DE 102004007365	A1	20041014 (200467)	DE	H05B033-12
EP 1601741	A1	20051207 (200580)	DE	
JP 2006519319	W	20060824 (200656)	JA	14

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2004074401	A1	WO 2004-EP1429	20040216
DE 10333583	A1	DE 2003-10333583	20030724
DE 102004007365	A1	DE 2004-102004007365	20040216
EP 1601741	A1	EP 2004-711357	20040216
EP 1601741	A1	WO 2004-EP1429	20040216
JP 2006519319	W	WO 2004-EP1429	20040216
JP 2006519319	W	JP 2006-501855	20040216

FILING DETAILS:

PATENT NO	KIND		PATENT NO	
EP 1601741	A1	Based on	WO 2004074401	A
JP 2006519319	W	Based on	WO 2004074401	A

PRIORITY APPLN. INFO: DE 2003-10333583 20030724
 DE 2003-10306769 20030218

INT. PATENT CLASSIF.:

MAIN: C09K011-08; H05B033-12
 SECONDARY: D02G003-00; D06H007-00
 IPC ORIGINAL: D03D0015-00 [I,A]; H05B0033-10 [I,A]; H05B0033-12 [I,A]; H05B0033-14 [I,A]; H05B0033-26 [I,A]
 IPC RECLASSIF.: C09K0011-08 [I,A]; C09K0011-08 [I,C]; D02G0003-44 [I,A]; D02G0003-44 [I,C]

BASIC ABSTRACT:

WO 2004074401 A1 UPAB: 20060203
 NOVELTY - A textile sheet structure comprises an arrangement of a number of **conductive fibers** with **insulating sections** or **fibers** between the **conductive fibers** with an inorganic electroluminescent material incorporated into cavities of the structure or electroluminescent coated fibers as well as electrical connection elements and having a selective coating comprising a fluorescent material and/or optical brightener.

DETAILED DESCRIPTION - A textile sheet structure (I) comprises an arrangement of a number of **conductive fibers** or **fibers** having **conductive properties** with **insulating sections** between the **conductive fibers** or **insulating fibers** are incorporated into the structure and the structure (I) comprises an inorganic electroluminescent material as well as electrical connection elements whereby the electroluminescent material is incorporated into the interstitial cavities of the structure (I) or comprises coated fibers arranged within the structure and whereby the structure (I) comprises a selective coating comprising a fluorescent material and/or optical brightener such that the overall arrangement comprises a transparent elastomeric protective covering layer.

An INDEPENDENT CLAIM is included for a process for the production of the structure (I) by preparation of a precursor structure by means of textile techniques to form **conductive**

fibers insulated from their neighbors, application of an electroluminescent paste that is at least partially absorbed by the fibers thereby fixing it, application of the fluorescent material onto the pretreated structure followed by application of the covering layer.

USE - The structure (I) is useful as a high visibility safety textile, interior decoration or advertising banner (claimed).

ADVANTAGE - The structure (I) is simple to prepare and has high efficiency.

DESCRIPTION OF DRAWINGS - The drawing is a perspective view of **conductive fibers** having a thin electroluminescent layer.

outer **electrodes** (1)
coating (7)
fibers (8)

TECHNOLOGY FOCUS:

POLYMERS - Preferred Composition: The covering layer is polyurethane, acrylate or polyvinyl chloride. The electrical connecting elements are formed immediately upon cutting of the textile structure by textile techniques such as adhesion. Objects of use are integrated into the textile product. The **conductive fibers** are metallized fibers, carbon fibers or indium-tin oxide coated fibers.

Electroluminescent material is placed in the gap between two **conductive fibers** or a fiber coated with electroluminescent material or material having electroluminescent properties is placed into the gap. The structure (I) has a double comb structure partially printed with electroluminescent material which by additive or subtractive mixing of a number of base coloring agents has an adjustable color. The diameter of the individual fibers is 20-500 micrometers. The fluorescent material is colored or fluorescent nanoparticles are added to increase radiation intensity. The fluorescent material is applied as an individual printed image, preferably by means of screen printing, ink-jet or pen. An additive or subtractive color matrix is formed by additional printing passes. Stripes and points are formed in the structure by different coated and modified fibers. A display matrix is formed, by arrangement of the **conductive fibers** and connection elements, having individual or grouped image points.

Preferred Process: The precursor structure contains fibers having an electroluminescent coating and are galvanically strengthened and pretreated. The fluorescent fibers or coated fibers. A double comb structure is formed of **alternate conductive and non-conductive weft fibers** having **conductive warp fibers** for external contact by **alternate left and right-sided floatation** of the **conductive weft fibers** and removal of the floatation whereby the structure is used to contact discrete electronic components. The electronic device to control the light structure is integrated into the textile sheet and comprises a voltage transformer whose inductor is woven into the textile sheet.

FILE SEGMENT: CPI; EPI
MANUAL CODE: CPI: A12-E11C; F03-C; F04-E; L03-D01; L03-D04G;
L03-G05F; L03-J
EPI: X12-D02X

L22 ANSWER 4 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-516163 [49] WPIX

DOC. NO. CPI: C2004-190590 [49]
 DOC. NO. NON-CPI: N2004-408909 [49]
 TITLE: Fabrication wearable **electrode** apparatus
 for, e.g. electronic muscle stimulator, by knitting
 fabric strips made of yarn of textile and metal
fibers, providing **conductive**
 portions with respective terminal, and fabricating
 semi-garment
 DERWENT CLASS: F04; P34; S05; X27
 INVENTOR: CHEN C; CHEN J; HUANG H; HUANG S; KUO C; LIN Z; SHU
 D
 PATENT ASSIGNEE: (KING-N) KING'S METAL FIBER TECHNOLOGIES CO LTD
 COUNTRY COUNT: 2

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 20040118166	A1	20040624	(200449)*	EN	13 [2]	D04B023-06
TW 567077	A	20031221	(200449)	ZH		A61N001-18
US 6915668	B2	20050712	(200546)	EN		D04B001-22
TW 2004010740	A	20040701	(200580)	ZH		A61N001-18

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 20040118166	A1	US 2003-704620	20031112
TW 567077	A	TW 2002-132536	20021219
TW 2004010740	A	TW 2002-132536	20021219

PRIORITY APPLN. INFO: TW 2002-132536 20021219

INT. PATENT CLASSIF.:

MAIN: A61N001-18
 SECONDARY: D02G003-12
 IPC RECLASSIF.: A61N0001-04 [I,A]; A61N0001-04 [I,C]; D04B0001-14
 [I,A]; D04B0001-14 [I,C]; D04B0001-22 [I,C];
 D04B0001-24 [I,A]

BASIC ABSTRACT:

US 20040118166 A1 UPAB: 20060203

NOVELTY - A wearable **electrode** apparatus is
 fabricated by knitting a fabric (12) comprising spaced electrically
conductive fabric strips (122, 124) made of a
 yarn consisting of textile fibers and metal fibers, cutting out a
 semi-garment from the **fabric**, providing the
conductive portions of the semi-garment with a respective
 terminal, and fabricating the semi-garment into the garment as the
 wearable **electrode** apparatus.

DETAILED DESCRIPTION - Fabrication of a wearable
electrode apparatus comprises knitting a fabric comprising
 2N spaced electrically **conductive fabric strips**
 made of a yarn consisting of textile fibers and metal fibers;
 according to a pattern of a garment, cutting out a semi-garment
 from the fabric, the semi-garment comprising 2M electrically
 conductive portions formed from the 2N electrically
conductive fabric strips; providing each of the
 2M electrically conductive portions of the semi-garment with a
 respective terminal for connection with an external apparatus; and
 fabricating the semi-garment with the terminals into the garment as
 the wearable **electrode** apparatus.

N = natural number;
M = natural number at most N.

USE - The invention is used for the fabrication of a wearable **electrode** apparatus useful for, e.g. transcutaneous electrical nerve stimulator, and electronic muscle stimulator.

ADVANTAGE - The invention provides a wearable **electrode** apparatus which is comfortable to wear, easy to produce, has low manufacturing cost, has various design model, and has limitless washing frequency.

DESCRIPTION OF DRAWINGS - The figure shows the inventive method.

Fabric (12)

Fabric strips (122, 124)

TECHNOLOGY FOCUS:

TEXTILES AND PAPER - Preferred Method: The yarn is made by a blending or a twisting process. Preferred Component: The fabric also comprises K spaced electrically **insulating fabric strips**, the 2N electrically **conductive fabric strips** and the K electrically **insulating fabric strips** are disposed **alternately**,

K = natural number equal to or larger than (2N-1).

METALLURGY - Preferred Component: The yarn contains 10-100 volume% metal fibers. The metal fibers are nickel-chromium alloy fibers, or stainless steel fibers.

FILE SEGMENT:

CPI; GMPI; EPI

MANUAL CODE:

CPI: F02-B03; F04-E; F04-E04; F04-F03

EPI: S05-A05; X27-A02

L22 ANSWER 5 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-437682 [41] WPIX
DOC. NO. CPI: C2004-163940 [41]
DOC. NO. NON-CPI: N2004-346163 [41]
TITLE: Flexible heating element has weft with additional **electrodes** and current distributing **electrodes alternating** with them, and crossing complex current **conducting polymer fibers** and metallized fibers
DERWENT CLASS: A21; A85; X25; X27
INVENTOR: OFITSERYAN A R; OFITSERYAN R V
PATENT ASSIGNEE: (OFIT-I) OFITSERYAN A R; (OFIT-I) OFITSERYAN R V
COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
RU 2216130	C2	20031110	(200441)*	RU	4[6]	H05B003-34

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
RU 2216130	C2	RU 2001-128149	20011018

PRIORITY APPLN. INFO: RU 2001-128149 20011018

INT. PATENT CLASSIF.:

IPC RECLASSIF.: H05B0003-34 [I,A]; H05B0003-34 [I,C]

BASIC ABSTRACT:

RU 2216130 C2 UPAB: 20050530

NOVELTY - Current conducting cloth which warp includes complex current **conducting** polymer **fibers** in the form of strips, edge and intermediate **electrodes** spaced from resistive layer by mass of **insulation** **fibers** and which weft has additional **electrodes** and current distributing **electrodes** **alternating** with them and crossing complex current **conducting** polymer **fibers** and metallized fibers of warp of current conducting cloth. Process of manufacture of flexible heating element is process in correspondence with which peripheral zones of all current distributing and part of peripheral zones of additional **electrodes** are stamped in mass of **insulation** **fibers** contacting intermediate **electrodes** or edge **electrodes** on one side and mass of complex current **conducting** polymer **fibers** on other side.

DETAILED DESCRIPTION - Stamping zones of metallized fibers of additional **electrodes** are located with **alternation** on one or other side of mass of complex current **conducting** polymer **fibers** with formation of commutation comb of specified resistive layer, terminal current leads of copper foil are tinned and soldered to ends of edge and additional or intermediate and additional **electrodes** on one side of resistive layer which is placed between two layers of insulation coat and are pressed by specific pressure of 8-10 kgf/sq cm with additional pressing of packages when temperature reaches 130-140 degrees C, subsequent working to specified overall dimensions, removal of part of insulation coat, soldering of supply cord and potting of zone of terminal current leads with supply cord in difficult-to-burn epoxy composition of cold hardening.

USE - Electrothermics, manufacture of electric heaters for household and industrial application.

ADVANTAGE - Enhanced serviceability and operational reliability of flexible heating element, decreased cost of its manufacture.

FILE SEGMENT: CPI; EPI
MANUAL CODE: CPI: A05-A01E2; A12-E10; A12-E14; A12-S05X
EPI: X25-B01C3; X27-E01

L22 ANSWER 6 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 1998-019694 [03] WPIX
DOC. NO. CPI: C1998-007531 [03]
DOC. NO. NON-CPI: N1998-014864 [03]
TITLE: Accumulator plate of metallised synthetic fibres -
is treated to eliminate or insulate surface
projecting or adhering fibres
DERWENT CLASS: A85; L03; X16
INVENTOR: HENKE D; IMHOF O; KISTRUP H; KITZHOEFER W;
KITZHOEFER W; SCHAFFRATH U
PATENT ASSIGNEE: (DEAU-C) DAUG HOPPECKE GES BATTERIESYSTEME MBH;
(DEAU-C) DEUT AUTOMOBIL GMBH; (HENK-I) HENKE D;
(IMHO-I) IMHOF O; (KIST-I) KISTRUP H; (KITZ-I)
KITZHOEFER W; (SCHA-I) SCHAFFRATH U
COUNTRY COUNT: 2

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
DE 19621316	A1	19971204	(199803)*	DE	10 [6]	H01M004-26
US 20010000031	A1	20010315	(200116)	EN		H01M004-80

US 6214491	B1 20010410 (200122)	EN	H01M004-74
DE 19621316	C2 20020307 (200219)	DE	H01M004-26
US 6558839	B2 20030506 (200338)	EN	H01M004-74

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 19621316	A1	DE 1996-19621316	19960528
US 20010000031	A1 Div Ex	US 1997-864733	19970528
US 6214491	B1	US 1997-864733	19970528
US 6558839	B2 Div Ex	US 1997-864733	19970528
US 20010000031	A1	US 2000-725577	20001130
US 6558839	B2	US 2000-725577	20001130

FILING DETAILS:

PATENT NO	KIND	PATENT NO
US 6558839	B2	US 6214491
	Div ex	B

PRIORITY APPLN. INFO: DE 1996-19621316 19960528

INT. PATENT CLASSIF.:

IPC RECLASSIF.: D04H0001-42 [I,A]; D04H0001-42 [I,C]; H01M0010-42 [N,C]; H01M0010-52 [N,A]; H01M0004-66 [N,A]; H01M0004-66 [N,C]; H01M0004-70 [I,C]; H01M0004-80 [I,A]

BASIC ABSTRACT:

DE 19621316 A1 UPAB: 20050520

A made-to-size, porous, metallised fibrous framework plate comprises non-woven materials or needled felts of metal coated, inherently non-conductive synthetic fibres. The metallised fibre ends or residues, which project from the edge region and/or from the front edge of the plate (except for a current conductor tab attachment region) and which promote dendritic growth, are eliminated and/or individually electrically non-conductively sealed and/or embedded in an electrically non-conductive outer covering on the plate.

Also claimed is the production of the above plate.

USE - Used as an **electrode** or recombination (gas diffusion) body in an electric accumulator.

ADVANTAGE - The design increases functional reliability and avoids the risk of short-circuiting between plates of different polarity caused by projecting metallised fibre ends or fibre bundles and/or by dendritic growth.

DOCUMENTATION ABSTRACT:

DE19621316

A made-to-size, porous, metallised fibrous framework plate comprises non-woven materials or needled felts of metal coated, inherently non-conductive synthetic fibres.

The metallised fibre ends or residues, which project from the edge region and/or from the front edge of the plate (except for a current conductor tab attachment region) and which promote dendritic growth, are eliminated and/or individually electrically non-conductively sealed and/or embedded in an electrically non-conductive outer covering on the plate.

Also claimed is the production of the above plate.

USE

Used as an **electrode** or recombination (gas

diffusion) body in an electric accumulator.

ADVANTAGE

The design increases functional reliability and avoids the risk of short-circuiting between plates of different polarity caused by projecting metallised fibre ends or fibre bundles and/or by dendritic growth.

CLAIMED PRODUCTION

In plate production, the metallised fibre ends or residues, which adhere to or project from the edge region and/or from the front edge of the plate and which promote dendritic growth, are eliminated, individually electrically non-conductively sealed and/or embedded in an electrically non-conductive outer covering on the plate by being subjected to mechanical, chemical and/or thermal treatment.

PREFERRED PROCESS

Projecting or adhering fibres are eliminated from the plate edge by compacting the fibre structure at the edge region, preferably by hot compressing at above the melting temperature of the synthetic material of the metallised fibres, by resistance welding the metallised fibres in the edge region or by stamping out the plate from a larger semi-finished product.

Alternatively, the projecting or adhering fibres at the front or edge faces may be locally heated so that molten fibre material sheaths the fibre ends, preferably while applying pressure to the front or edge faces by to-and-fro motion on a hard substrate to roll down the cut edges.

A binder or hot melt adhesive may be applied to the edges and front edge regions of the plate to seal or embed the projecting or adhering fibres, this operation preferably being carried out after filling the plate with active material and after shaping the front or edge faces of the plate.

The adhesive or binder may be cured or dried by contact with a heated shaped body or may be bonded to a separator placed on the main face of the plate, when the plate is an **electrode** plate. (JT)

FILE SEGMENT: CPI; EPI
MANUAL CODE: CPI: A11-C04B1; A12-E06A; A12-E14; L03-E01B;
L03-E03
EPI: X16-E02; X16-E05

L22 ANSWER 7 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 1995-393978 [51] WPIX
DOC. NO. NON-CPI: N1995-287245 [51]
TITLE: Heating element in form of flexible tape - has web
of **conducting carbon fibres** and
insulating glass fibres with
electrodes, all bound in thermosetting
resin
DERWENT CLASS: A85; F03; L03; Q41; X25
INVENTOR: ASANO Y; KINOSHITA S; MISAKA Y; MISAWA J; MISAWA Y;
MITSUSAKA N; MITSUSAKA R; MIZAWA J; MIZAWA Y;
NOMURA K; UMEMOTO S
PATENT ASSIGNEE: (ARAE-N) ARA ELECTRONICS; (ARAE-N) ARA ENERTEK CO
LTD; (ARIA-C) ARISAWA MFG CO LTD; (MISA-N) MISAWA
SHOKAI CO LTD; (MISA-N) MISAWA SHOKAI KK; (TROA-C)
TAISEI ROTEC KK
COUNTRY COUNT: 3

PATENT INFORMATION:

} Not
Fabric

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
DE 19516909	A1	19951116	(199551)*	DE	10 [7]	H05B003-34
JP 07302683	A	19951114	(199603)	JA	1	H05B003-20
JP 10069963	A	19980310	(199820)	JA	7 [7]	H05B003-20
KR 300482	B	20011022	(200236)	KO		H05B003-20
DE 19516909	B4	20060112	(200609)	DE		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 19516909	A1	DE 1995-19516909	19950509
JP 07302683	A	JP 1994-96403	19940510
JP 10069963	A Div Ex	JP 1994-96403	19940510
KR 300482	B	KR 1994-13695	19940617
JP 10069963	A	JP 1997-210422	19940510

FILING DETAILS:

PATENT NO	KIND	PATENT NO
KR 300482	B	Previous Publ
		KR 95035514 A

PRIORITY APPLN. INFO: JP 1994-96403 19940510
 JP 1997-210422 19940510

INT. PATENT CLASSIF.:

MAIN: H05B003-20
 IPC ORIGINAL: E01C0011-24 [I,C]
 IPC RECLASSIF.: E01C0011-24 [I,C]
 ; E01C0011-26 [I,A]
 ; E01C0011-26 [I,A]; H05B0003-14 [I,A]; H05B0003-14 [I,C];
 H05B0003-20 [I,A]; H05B0003-20 [I,C]; H05B0003-34
 [I,A]
 ; H05B0003-34 [I,A]
 ; H05B0003-34 [I,C]
 ; H05B0003-34 [I,C]
 ; H05B0003-34 [I,C]; H05B0003-36 [I,A]

BASIC ABSTRACT:

DE 19516909 A1 UPAB: 20060110

A tape-shaped heating element has carbon fibres (11) for heating interwoven with glass fibres (12) for insulation. The glass fibres being both parallel and at right angles to the carbon fibres. A thermosetting resin or plastic is used to bind all the fibres together to the conducting electrodes (13) which are along the edges of the tape. On both sides of the matrix is an insulating resin or plastic foil. The tape has cut-outs along its edges to subdivide the electrode lengths. There is a further cover tape on either side, made from woven glass fibres impregnated with thermosetting resin, in direct contact with the resin or plastic foils.

USE/ADVANTAGE - Prevents street freezing especially where winter chains forbidden on car tyres, for heated flooring. Easy to regulate temperature, easy to maintain and eco-friendly.

FILE SEGMENT: CPI; GMPI; EPI

MANUAL CODE: CPI: A08-R03A; A12-E10; A12-R; A12-R06; A12-S08;
 A12-T04; F01-D09A; F01-D09B; F02-A03A; F02-E02;
 F03-D04; F04-E03; F04-E06; L02-H04A; L03-H04A
 EPI: X25-B01B; X25-B01C3

L22 ANSWER 8 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
 ACCESSION NUMBER: 1994-172796 [21] WPIX
 DOC. NO. CPI: C1994-078535 [21]
 DOC. NO. NON-CPI: N1994-136402 [21]
 TITLE: **Electrode** sheet permitting measurement of
 physiological functions without subject
 consciousness - comprises sheet body woven with
 electrically **insulating filament**
 or spun yarn cloth **electrode** at positions
 where head and legs lay and conductive under cloth
 shielding external electric noise
 DERWENT CLASS: D22; F07; L03; P31; S05
 INVENTOR: ISHIJIMA M
 PATENT ASSIGNEE: (NIYO-N) NIPPON YOSAN SENSHOKU KK
 COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 06114019	A	19940426	(199421)*	JA	5 [6]	A61B005-0408

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 06114019 A		JP 1992-253035	19920922

PRIORITY APPLN. INFO: JP 1992-220385 19920819

INT. PATENT CLASSIF.:

IPC RECLASSIF.: A61B0005-0408 [I,A]; A61B0005-0408 [I,C];
 A61B0005-0476 [I,C]; A61B0005-0478 [I,A];
 A61B0005-0488 [I,C]; A61B0005-0492 [I,A]

BASIC ABSTRACT:

JP 06114019 A UPAB: 20060109

A new **electrode** sheet has a sheet body woven with
 an electrically **insulating filament** or spun
 yarn, a cloth **electrode** arranged at the position where a
 subject lays his/her head, another cloth **electrode**
 arranged at the position where the subject lays his/her legs and
 conductive cloth disposed under the sheet body to control external
 electric noises.

Pref. the **electrodes** are composed of a woven,
 knitted or nonwoven fabric including a **conductive**
 thread. **Alternatively**, the **electrodes** are pref.
 formed by incorporating a conductive thread into the sheet body.
 Pref. the conductive thread is a filament or spun yarn containing
 copper sulphide and nickel.

Also claimed is an **electrode** sheet having the sheet
 body, a pair of cloth **electrodes** arranged at the
 positions corresponding to the breast of a subject lying on the
 sheet, a cloth **electrode** put on the breast of the subject
 and the conductive cloth controlling external noises. Pref. the
 body consists of two pieces; and the pair of the **electrodes**
 are disposed between the pieces.

USE/ADVANTAGE - The sheet achieves a high signal-to-noise
 ratio, ensuring accurate measurement of very weak potentials and
 physiological functions. It permits measurement simply by making a
 subject lie on it without consciousness of being measured.

FILE SEGMENT: CPI; GMPI; EPI

MANUAL CODE: CPI: D09-C04; F02-A03A; F04-E04; L03-J
EPI: S05-D01A

L22 ANSWER 9 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 1990-111577 [15] WPIX
DOC. NO. NON-CPI: N1990-086186; N1993-116937 [21] [21]
TITLE: High frequency heating appts., e.g. electromagnetic
induction cooker and microwave oven - removes
electron remaining between gate **electrode**
and emitter of insulated gate bipolar transistor
DERWENT CLASS: X25; X27
INVENTOR: TANAKA T
PATENT ASSIGNEE: (TOKE-C) TOSHIBA KK
COUNTRY COUNT: 2

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 02061981	A	19900301	(199015)*	JA		
US 5204504	A	19930420	(199319)	B EN	15 [8]	H05B006-68

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 02061981 A		JP 1988-212043	19880826
US 5204504 A		US 1989-398506	19890825

PRIORITY APPLN. INFO: JP 1988-212043 19880826

INT. PATENT CLASSIF.:

IPC RECLASSIF.: H02M0007-538 [I,A]; H02M0007-538 [I,C]; H03K0017-04
[I,A]; H03K0017-04 [I,C]; H03K0017-0412 [I,A];
H03K0017-16 [I,A]; H03K0017-16 [I,C]; H05B0006-06
[I,A]; H05B0006-06 [I,C]; H05B0006-12 [I,A];
H05B0006-12 [I,C]; H05B0006-66 [I,A]; H05B0006-66
[I,C]

BASIC ABSTRACT:

US 5204504 A UPAB: 20050430

The h.f. heating appts. has a DC (direct current)-to-AC (alternating current) inverter, having an insulated gate bipolar transistor, for inverting DC power into h.f. AC power utilising a resonant phenomenon by switching the insulated gate bipolar transistor at a predetermined h.f. The AC power heats an article using electromagnetic induction.

A gate **electrode** of the insulated gate bipolar transistor is driven for the switching. An electron remaining between the gate **electrode** of the insulated gate bipolar transistor and an emitter when the insulated gate bipolar transistor is turned OFF is removed. Vibrations of a gate voltage of the insulated gate bipolar transistor are suppressed when the insulated gate bipolar transistor is turned OFF.

ADVANTAGE - Reduced power loss. (First major country equivalent to JP2061981). - .D

FILE SEGMENT: EPI

MANUAL CODE: EPI: X25-B02A; X25-B02A2; X25-B02B; X25-B02B1;
X27-C01; X27-C06; X27-C07

L22 ANSWER 10 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 1990-087194 [12] WPIX

DOC. NO. CPI: C1990-038338 [21]
 TITLE: Filter for liquid containing carbon or combustible solid
 - has woven fabric and silicon carbide electrically
conductive and exothermic **fibre**,
 with heater **electrodes**
 DERWENT CLASS: J01; J09; L03
 INVENTOR: IWATA K; SHIMADA K
 PATENT ASSIGNEE: (TEIJ-C) TEIJIN LTD
 COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 02040211	A	19900209	(199012)*	JA	4	[2]

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 02040211 A		JP 1988-190563	19880801

PRIORITY APPLN. INFO: JP 1988-190563 19880801

INT. PATENT CLASSIF.:

IPC RECLASSIF.: B01D0035-00 [I,C]; B01D0035-18 [I,A]; B01D0039-20
 [I,A]; B01D0039-20 [I,C]; B01D0046-42 [I,A];
 B01D0046-42 [I,C]

BASIC ABSTRACT:

JP 02040211 A UPAB: 20050430

A filter comprises a woven fabric, as a filter layer, made from electrically **conductive** and exothermic **fibre**, being continuous, and **electrodes**, set on both sides of the fabric, which are able to heat the woven fabric.

The filter comprises pref. multi-layered fabric. The fibre is pref. electrically **conductive** ceramic **fibre** which comprises silicon carbide. The filter comprises pref. the layered prod., made by placing the layer of woven fabric and set **electrodes** on both sides of it alternatively with the layer, being liquid-permeable and electrically insulating sheet. The filter layer is pref. set on a liquid-permeable and supporting material, having electrically **insulating** property. The **fibre** has pref. 10 power(-4) - 10 power(3) ohm.cm specific resistance of single fibre at 500-1200 deg.C.

USE/ADVANTAGE - The filter is used for liquid, containing carbon or combustible solid and is useful for separation of liquid, having high temperature or for burning of trapped material.

FILE SEGMENT: CPI
 MANUAL CODE: CPI: J01-H; L03-A02

=> fil heap

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FILE LAST UPDATED: 21 Mar 2007 (20070321/ED)

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FILE LAST UPDATED: 20 MAR 2007 <20070320/UP>
FILE COVERS APRIL 1973 TO NOVEMBER 30, 2006

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FILE LAST UPDATED: 19 MAR 2007 <20070319/UP>
FILE COVERS 1898 TO DATE.

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THE ABSTRACT (/AB), BASIC INDEX (/BI) AND TITLE (/TI) FIELDS >>>

=> d 157 iall 1-13

L57 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:981808 HCAPLUS
DOCUMENT NUMBER: 145:326604
ENTRY DATE: Entered STN: 22 Sep 2006
TITLE: Flexible electric circuit boards employing
fibrous insulator substrates
and having wirings on both sides
INVENTOR(S): Hiroshige, Katsuya
PATENT ASSIGNEE(S): Hiroshige, Koichi, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
CLASSIFICATION: 76-3 (Electric Phenomena)
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006253612	A	20060921	JP 2005-71950	

200503
14

PRIORITY APPLN. INFO.:

JP 2005-71950

200503
14

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2006253612	IPCI	H05K0001-11 [I,A]
	FTERM	5E317/AA24; 5E317/BB02; 5E317/BB03; 5E317/BB04; 5E317/BB12; 5E317/BB13; 5E317/BB14; 5E317/BB15; 5E317/BB18; 5E317/CC22; 5E317/CC32; 5E317/CD15; 5E317/CD25; 5E317/CD32; 5E317/GG03

ABSTRACT:

The circuit board comprises, in a hole formed in the **fibrous** *****insulator***** substrate, an elec. conductive member tangling with the fibrous substrate. **Alternatively**, a patternable photosensitive elec. insulating layer is applied on the insulator substrate and patterned so as to give holes in which elec. conductive member capable of tangling with the fibers of the substrate is formed.

*****Alternatively*****, a strippable photoresist is patternwise applied on the **fibrous insulator** substrate prior to filling the substrate with an insulator polymer, and then the resist is stripped and elec. conductive member is formed the resist-stripped region.

*****Alternatively*****, an insulating sheet is bonded on one or both sides of the insulating substrate, then a hole is formed in the sheet for subsequently forming a conductive member. The formed conductor shows high adhesion strength with the substrate, and the total thickness of the circuit board is thin enough.

SUPPL. TERM: flexible elec circuit board **fibrous**
insulator substrate **conductor**
filling; photolithog patterning flexible circuit board
fibrous insulator formation
conductor

INDEX TERM: Electric **insulators**
(**fibrous**, substrate; flexible elec.
circuit board with **fibrous**
insulator substrate having hole filled with
conductor member)

INDEX TERM: Printed circuit boards
(flexible; flexible elec. circuit board with
fibrous insulator substrate
having hole filled with conductor member)

INDEX TERM: Photolithography
(for forming conductor member; flexible elec.
circuit board with **fibrous**
insulator substrate having hole filled with
conductor member)

L57 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:677624 HCAPLUS

DOCUMENT NUMBER: 145:125611

ENTRY DATE: Entered STN: 13 Jul 2006

TITLE: Composites, prepregs, metal-bonded laminates,
multilayered substrates, and their manufacture

INVENTOR(S): Takano, Nozomi; Kamiya, Masaki

PATENT ASSIGNEE(S): Hitachi Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

DOCUMENT TYPE: CODEN: JKXXAF
 LANGUAGE: Patent
 CLASSIFICATION: Japanese
 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 76
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006182900	A	20060713	JP 2004-377431	20041227
PRIORITY APPLN. INFO.:				20041227

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2006182900	IPCI	C08J0005-24 [I,A]; B32B0003-08 [I,A]; B32B0005-28 [I,A]; B32B0005-22 [I,C*]; B32B0015-08 [I,A]; C08J0005-04 [I,A]; H05K0001-03 [I,A]; H05K0003-46 [I,A]
	FTERM	4F072/AA04; 4F072/AA07; 4F072/AB09; 4F072/AB28; 4F072/AB29; 4F072/AD09; 4F072/AD25; 4F072/AD54; 4F072/AE01; 4F072/AF13; 4F072/AF15; 4F072/AF26; 4F072/AF28; 4F072/AF30; 4F072/AG03; 4F072/AG19; 4F072/AJ04; 4F072/AK02; 4F072/AL13; 4F100/AB01B; 4F100/AB17B; 4F100/AB33B; 4F100/AG00A; 4F100/AK25A; 4F100/BA02; 4F100/BA08; 4F100/DC11A; 4F100/DD25A; 4F100/DG11A; 4F100/DH01A; 4F100/EJ17; 4F100/GB43; 4F100/JG01A; 4F100/JL03; 4F100/JL05; 4F100/YY00A; 5E346/AA06; 5E346/AA12; 5E346/AA15; 5E346/AA43; 5E346/BB01; 5E346/CC04; 5E346/CC08; 5E346/CC09; 5E346/CC31; 5E346/DD02; 5E346/DD12; 5E346/DD32; 5E346/EE31; 5E346/FF18; 5E346/GG02; 5E346/GG19; 5E346/GG22; 5E346/GG28; 5E346/HH33

ABSTRACT:

Title composites comprise fiber sheets arranged in polymer compns. with storage modulus 100-2000 MPa at 25°. The prepregs are obtained by semicuring the polymer compns. of the composites. The laminates, where elec. conductors extending in the thickness direction are deposited on inner walls of through holes, are obtained by forming metal foils on the composites or the prepregs and curing the polymer compns. The substrates are manufactured by (1) forming through holes in the composites, (2) filling the holes with elec. conducting pastes containing elec. conducting powders, liquid polymers, and powdered curing agents to form via holes, (3) hot-press bonding both surfaces of the composites with Cu foils, (4) processing the Cu foils to form circuit patterns for inner layers, and (5) hot-press bonding the composites and Cu foils on the resulting double-sided sheets ***alternatively*** and processing the Cu foils to form circuit patterns for outer layers. In the substrates, glass transition temperature of mixts. of the liquid polymers and the curing agents after curing is lower than that of the polymer compns. in the composites after curing. Thus, drop of polymer-cured products and reinforcements is prevented in thinning prepregs.

SUPPL. TERM: fiber reinforced polymer composite drop prevention;
storage modulus polymer elec insulator substrate;
copper foil polymer laminate printed circuit

INDEX TERM: Electric insulators
Electrically conductive pastes
(fiber-polymer composites for
drop-prevented thinned prepregs in manufacture of
multilayered substrates)

INDEX TERM: Acrylic polymers, uses
Laminated plastics, uses
ROLE: TEM (Technical or engineered material use); USES
(Uses)
(fiber-polymer composites for drop-prevented
thinned prepregs in manufacture of multilayered
substrates)

INDEX TERM: Metals, uses
ROLE: TEM (Technical or engineered material use); USES
(Uses)
(foils; fiber-polymer composites for drop-prevented
thinned prepregs in manufacture of multilayered
substrates)

INDEX TERM: Reinforced plastics
ROLE: TEM (Technical or engineered material use); USES
(Uses)
(glass fiber-reinforced; fiber-polymer composites
for drop-prevented thinned prepregs in manufacture of
multilayered substrates)

INDEX TERM: Printed circuit boards
(multilayer; fiber-polymer composites for
drop-prevented thinned prepregs in manufacture of
multilayered substrates)

INDEX TERM: Glass fiber fabrics
ROLE: MOA (Modifier or additive use); TEM (Technical
or engineered material use); USES (Uses)
(reinforcements; fiber-polymer composites for
drop-prevented thinned prepregs in manufacture of
multilayered substrates)

INDEX TERM: Contact holes
(via holes; fiber-polymer composites for
drop-prevented thinned prepregs in manufacture of
multilayered substrates)

INDEX TERM: 7440-50-8, Copper, uses
ROLE: TEM (Technical or engineered material use); USES
(Uses)
(foils; fiber-polymer composites for drop-prevented
thinned prepregs in manufacture of multilayered
substrates)

L57 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:302677 HCAPLUS

DOCUMENT NUMBER: 142:358088

ENTRY DATE: Entered STN: 08 Apr 2005

TITLE: Conductive component and separator for
fuel cell

INVENTOR(S): Takahashi, Kunio; Terasawa, Toshihisa

PATENT ASSIGNEE(S): Aisin Seiki Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

INT. PATENT CLASSIF.:

MAIN: H01M008-02
 SECONDARY: C08K007-06; C08L101-12
 CLASSIFICATION: 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005093360	A	20050407	JP 2003-328385	20030919
PRIORITY APPLN. INFO.:				20030919
				20030919

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2005093360	ICM	H01M008-02
	ICS	C08K007-06; C08L101-12
	IPCI	H01M0008-02 [ICM,7]; C08K0007-06 [ICS,7]; C08K0007-00 [ICS,7,C*]; C08L0101-12 [ICS,7]; C08L0101-00 [ICS,7,C*]
	IPCR	C08K0007-00 [I,C*]; C08K0007-06 [I,A]; C08L0101-00 [I,C*]; C08L0101-12 [I,A]; H01M0008-02 [I,A]; H01M0008-02 [I,C*]
	FTERM	4J002/BD141; 4J002/CC031; 4J002/CC101; 4J002/CD001; 4J002/CN011; 4J002/CN031; 4J002/DA016; 4J002/DA017; 4J002/FA046; 4J002/FA047; 4J002/FD116; 4J002/FD117; 4J002/GQ00; 5H026/AA02; 5H026/BB08; 5H026/CX02; 5H026/EE05; 5H026/EE18; 5H026/HH05

ABSTRACT:

The conductive component comprises a filamentous carbon, having the C net plane perpendicular or inclined to the fiber axis, contained in an insulating material. The separator uses the above component.

SUPPL. TERM: fuel cell separator
 conductive component filamentous
 carbon insulating material
 INDEX TERM: Fuel cell separators
 (conductive components having
 filamentous carbon containing
 insulating materials for fuel
 cell separators)
 INDEX TERM: Fibers
 Phenolic resins, uses
 ROLE: TEM (Technical or engineered material use); USES
 (Uses)
 (conductive components having
 filamentous carbon containing
 insulating materials for fuel
 cell separators)
 INDEX TERM: 7782-42-5, Graphite, uses
 ROLE: TEM (Technical or engineered material use); USES
 (Uses)
 (conductive components having

**filamentous carbon containing
insulating materials for fuel
cell separators)**
INDEX TERM: 7440-44-0, Carbon, uses
ROLE: TEM (Technical or engineered material use); USES
(Uses)
**(filamentous; conductive
components having filamentous carbon
containing insulating materials for
fuel cell separators)**

L57 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2007 ACS. on STN
ACCESSION NUMBER: 2003:82354 HCAPLUS
DOCUMENT NUMBER: 138:225283
ENTRY DATE: Entered STN: 03 Feb 2003
TITLE: Non-fibrous insulation of
submerged nozzles for continuous casting
AUTHOR(S): Schrick, Gunther; Gotthelf, Dirk; Buhr, Andreas
CORPORATE SOURCE: TYK Europe GmbH, Duisburg, 47229, Germany
SOURCE: Proceedings of [the] Unified International
Technical Conference on Refractories, Biennial
Worldwide Congress, 7th, Cancun, Mexico, Nov.
4-7, 2001 (2001), Volume 3, 1244-1253. American
Ceramic Society: Westerville, Ohio.
CODEN: 69DNT8
DOCUMENT TYPE: Conference
LANGUAGE: English
CLASSIFICATION: 57-6 (Ceramics)
Section cross-reference(s): 55

ABSTRACT:

This investigation reports on the use of a microporous insulation on the basis of calcium hexaaluminate as an **alternative** to the nowadays usually employed **fibrous insulation** of submerged nozzles for continuous casting. The new insulation offers advantages in submerged nozzle production owing to the greater suitability for process automation. This new insulation has also shown good results in practise due to good heat insulating qualities and easy handling. These pos. test results have now been confirmed in an industrial trial with more than 100 submerged nozzles. Compared to the **fibrous ***alternative*****, thermal **insulation** is improved with the new insulation even with the same thickness. Following the pos. results, microporous insulation is being more and more applied to submerged nozzles.

SUPPL. TERM: submerged nozzle calcium aluminate thermal insulator
steel continuous casting
INDEX TERM: Casting of metals
(continuous; non-fibrous calcium hexaaluminate
thermal insulation of submerged nozzles for
continuous casting of steel)
INDEX TERM: Porosity
(microporosity; non-fibrous calcium hexaaluminate
thermal insulation of submerged nozzles for
continuous casting of steel)
INDEX TERM: Process automation
Thermal **conductivity**
Thermal **insulators**
(non-fibrous calcium hexaaluminate
thermal insulation of submerged nozzles for
continuous casting of steel)

INDEX TERM: Nozzles
(submerged; non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)

INDEX TERM: 12005-50-4, Calcium hexaaluminate
ROLE: DEV (Device component use); PRP (Properties);
USES (Uses)
(non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)

INDEX TERM: 12597-69-2, Steel, processes
ROLE: PEP (Physical, engineering or chemical process);
PYP (Physical process); PROC (Process)
(non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD.

REFERENCE(S): (1) Morikawa, K; Taikabutsu 2000, V52(4), P189 HCAPLUS
(2) Perich, R; UNITECR'97 Proc 1997, V1, P287
(3) Schulle, W; Feuerfeste Werkstoffe 1990

L57 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:327739 HCAPLUS

DOCUMENT NUMBER: 134:314851

ENTRY DATE: Entered STN: 09 May 2001

TITLE: Non-fibrous insulation of submerged nozzles for continuous casting
AUTHOR(S): Gotthelf, Dirk; Schrick, Gunther; Buhr, Andreas
CORPORATE SOURCE: Thyssen Krupp Stahl AG, Dortmund, Germany
SOURCE: Stahl und Eisen (2001), 121(3), 73-77
CODEN: STEIA3; ISSN: 0340-4803

PUBLISHER: Verlag Stahleisen GmbH

DOCUMENT TYPE: Journal

LANGUAGE: German

CLASSIFICATION: 57-6 (Ceramics)

Section cross-reference(s): 55

ABSTRACT:

This investigation reports on the use of a microporous insulation on the basis of calcium hexaaluminate as an **alternative** to the nowadays usually employed **fibrous insulation** of submerged nozzles for continuous casting. The new insulation offers advantages in submerged nozzle production owing to the greater suitability for process automation. This new insulation has also shown good results in practise due to good heat insulating qualities and easy handling. These pos. test results have now been confirmed in an industrial trial with more than 100 submerged nozzles. Compared to the **fibrous ***alternative*****, thermal **insulation** is improved with the new insulation even with the same thickness. Following the pos. results, microporous insulation is being more and more applied to submerged nozzles.

SUPPL. TERM: submerged nozzle calcium aluminate thermal insulator
steel continuous casting

INDEX TERM: Casting of metals
(continuous; non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)

INDEX TERM: Porosity
(microporosity; non-fibrous calcium hexaaluminate

thermal insulation of submerged nozzles for continuous casting of steel)

INDEX TERM: Process automation
Thermal conductivity
Thermal insulators
(non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)

INDEX TERM: Nozzles
(submerged; non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)

INDEX TERM: 12005-50-4, Calcium hexaaluminate
ROLE: DEV (Device component use); PRP (Properties);
USES (Uses)
(non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)

INDEX TERM: 12597-69-2, Steel, processes
ROLE: PEP (Physical, engineering or chemical process);
PROC (Process)
(non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD.

REFERENCE(S): (1) Granitzki, K; Feuerfeste Stoffe im Giessereibetrieb, 2. Aufl 1989
(2) Morikawa, K; Taikabutsu 2000, V52(4), P189 HCAPLUS
(3) Perich, R; Proc UNITECR '97 1997, V1, P287
(4) Schulle, W; Feuerfeste Werkstoffe. Dt Verlag fur Grundstoffindustrie 1990
(5) Schulle, W; stahl u eisen 1999, V119(1), P55 HCAPLUS
(6) Van Garsel, D; Proc 41. Intern Colloq on Refractories 1998, P122
(7) Van Garsel, D; Proc UNITECR '99 P181

L57 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:590672 HCAPLUS
DOCUMENT NUMBER: 129:217896
ENTRY DATE: Entered STN: 17 Sep 1998
TITLE: Patterned **fibers** having **alternating conductive** and insulating segments and their manufacture
INVENTOR(S): Rasmussen, Glen L.
PATENT ASSIGNEE(S): USA
SOURCE: U.S., 3 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
INT. PATENT CLASSIF.:
MAIN: D06M014-08
US PATENT CLASSIF.: 428376000
CLASSIFICATION: 40-10 (Textiles and Fibers)
Section cross-reference(s): 76
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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 US 5804310 A 19980908 US 1996-768487

199612
18

PRIORITY APPLN. INFO.: US 1996-768487

199612
18

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5804310	ICM	D06M014-08
	INCL	428376000
	IPCI	D06M0014-08 [ICM,6]; D06M0014-00 [ICM,6,C*]
	IPCR	D04H0001-00 [I,C*]; D04H0001-14 [I,A]; D04H0001-42 [I,C*]; D04H0001-42 [I,A]; D06M0011-00 [I,C*]; D06M0011-83 [I,A]; D06M0023-00 [I,C*]; D06M0023-16 [I,A]; G03F0007-00 [I,C*]; G03F0007-00 [I,A]; H01B0001-20 [I,C*]; H01B0001-20 [I,A]; H01B0001-22 [I,C*]; H01B0001-22 [I,A]
	NCL	428/376.000; 430/314.000; 430/320.000; 442/320.000
	ECLA	D04H001/14; D04H001/42; D06M011/83; D06M023/16; G03F007/00; H01B001/20; H01B001/22

ABSTRACT:

Patterned fibers (such as polyacrylonitrile carbon fibers) having repeating segments of controlled conductivity separated by insulating segments are prepared by patterning the fiber with photoresist and/or metalizing bare portions of the fiber where the photoresist has been exposed and removed. The fibers are patterned as **alternating** segments of bare fiber/photoresist-coated fiber, bare fiber/metalized fiber, or metalized fiber/photoresist-coated fiber.

SUPPL. TERM: patterned fiber **alternating**
 conductive insulating segment;
 photoresist coated patterned fiber; metalized fiber
 patterned fiber; PAN carbon fiber patterned

INDEX TERM: Coating process
 (metalization; patterned **fibers** having
 alternating conductive and
 insulating segments)

INDEX TERM: Photoresists
 (patterned **fibers** having
 alternating conductive and
 insulating segments)

INDEX TERM: Fibers
 ROLE: DEV (Device component use); PEP (Physical,
 engineering or chemical process); PROC (Process); USES
 (Uses)
 (patterned **fibers** having
 alternating conductive and
 insulating segments)

INDEX TERM: Carbon fibers, uses
 ROLE: DEV (Device component use); PEP (Physical,
 engineering or chemical process); PROC (Process); USES
 (Uses)
 (polyacrylonitrile-based; patterned **fibers**
 having **alternating conductive**

INDEX TERM: and insulating segments)
25014-41-9D, PAN, carbonized
ROLE: DEV (Device component use); PEP (Physical,
engineering or chemical process); PROC (Process); USES
(Uses)

(fiber; patterned fibers having
alternating conductive and
insulating segments)
INDEX TERM: 11115-78-9, Copper sulfide
ROLE: DEV (Device component use); PEP (Physical,
engineering or chemical process); PROC (Process); USES
(Uses)
(patterned fibers having
alternating conductive and
insulating segments)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS
RECORD.

REFERENCE(S): (1) Arsac; US 4374893 1983 HCAPLUS
(2) Covey; US 4892626 1990 HCAPLUS
(3) Covey; US 5089325 1992
(4) Hathaway; J Chem Soc (A) 1970, P884 HCAPLUS
(5) Howard; US 4428761 1984 HCAPLUS
(6) Kohama; US 4215988 1980 HCAPLUS
(7) Liang; US 4661376 1987 HCAPLUS
(8) Mariker; US 4759986 1988 HCAPLUS
(9) Okamoto; Japanese Journal of Applied Physics 1973,
V12(8), P1130 HCAPLUS
(10) Redd; US 4218217 1980 HCAPLUS
(11) Schmadel; US 4566889 1986 HCAPLUS
(12) Soriano; Solar Energy Materials 1985, V12, P149
HCAPLUS
(13) Tomibe; US 4364739 1982 HCAPLUS
(14) Wegerhoff; US 4332600 1982 HCAPLUS
(15) Wegerhoff; US 4332601 1982 HCAPLUS
(16) White; Effective Medium Analysis of the
Dielectric Constant in Dielectric Media
Containing Short Conductive Fibers 1985

L57 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:62375 HCAPLUS

DOCUMENT NUMBER: 128:142434

ENTRY DATE: Entered STN: 02 Feb 1998

TITLE: Filter elements for purification of oils.

INVENTOR(S): Sasaki, Toru

PATENT ASSIGNEE(S): Kleentek Industrial Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

INT. PATENT CLASSIF.:

MAIN: B01D035-02

SECONDARY: B01D039-08

CLASSIFICATION: 47-2 (Apparatus and Plant Equipment)

Section cross-reference(s): 51, 76

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 10015314 A 19980120 JP 1996-189939

199607
02

PRIORITY APPLN. INFO.: JP 1996-189939

199607
02

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 10015314	ICM	B01D035-02
	ICS	B01D039-08
	IPC	B01D0035-02 [ICM,6]; B01D0039-08 [ICS,6]

ABSTRACT:

The title filter elements are composed of elec. **conductive** *****fibers*****, and they are not electrostatically chargeable. The filter elements are formed by **alternately** laminating elec.-*****conductive***** **fiber** sheets and elec.-**insulating** *****fiber***** sheets. The filter elements are earthed. The oils can be elec.-insulating oils, etc.

SUPPL. TERM: filter element oil purifn; elec insulating oil purifn
filter; electrostatic charge prevention oil filter
element

INDEX TERM: **Fibers**
ROLE: NUU (Other use, unclassified); TEM (Technical or
engineered material use); USES (Uses)
(elec. **conducting**, sheets; filter
elements for purification of oils)

INDEX TERM: Electric **conductors**
(**fiber**, sheets; filter elements for
purification of oils)

INDEX TERM: Electric **insulators**
(**fibers**, sheets; filter elements for
purification of oils)

INDEX TERM: Filters
(filter elements for purification of oils)

INDEX TERM: Liquids
ROLE: PEP (Physical, engineering or chemical process);
PROC (Process)
(oils, purification of; filter elements for purification of
oils)

INDEX TERM: Electrostatic charge
(prevention of; filter elements for purification of
oils)

INDEX TERM: Transformer oils
(purification of; filter elements for purification of oils)

INDEX TERM: Hydrocarbon oils
ROLE: PEP (Physical, engineering or chemical process);
PROC (Process)
(purification of; filter elements for purification of oils)

L57 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1990:632968 HCAPLUS

DOCUMENT NUMBER: 113:232968

ENTRY DATE: Entered STN: 22 Dec 1990

TITLE: Potted electrical devices with thermally
conductive surface

INVENTOR(S): Sheer, M. Lana; Solenberger, John C.

PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA

SOURCE: Eur. Pat. Appl., 4 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 INT. PATENT CLASSIF.:
 MAIN: H01B003-00
 CLASSIFICATION: 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 76
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 375851	A2	19900704	EP 1989-118314	19891003
EP 375851	A3	19901128		
EP 375851	B1	19950823		
R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
AU 8942449	A	19900405	AU 1989-42449	19891003
AU 637583	B2	19930603		
BR 8905014	A	19900508	BR 1989-5014	19891003
IL 91868	A	19940624	IL 1989-91868	19891003
ES 2077573	T3	19951201	ES 1989-118314	19891003
KR 132052	B1	19980424	KR 1989-14265	19891004
PRIORITY APPLN. INFO.:		US 1988-251772	A	19881003

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 375851	ICM	H01B003-00
	IPCI	H01B0003-00 [ICM,5]
	IPCR	H01F0027-32 [I,C*]; H01F0027-32 [I,A]; H01B0003-42 [I,C*]; H01B0003-42 [I,A]; H01F0027-02 [I,C*]; H01F0027-02 [I,A]; H01L0023-28 [I,C*]; H01L0023-31 [I,A]; H01L0023-34 [I,C*]; H01L0023-373 [I,A]
	ECLA	H01B003/42B2; H01F027/02A; H01L023/31H4; H01L023/373H; H01L023/373P
AU 8942449	IPCI	H01F0005-06 [ICM,4]; H01B0003-30 [ICS,4]; H01L0023-30 [ICS,4]; H05K0005-00 [ICS,4]
	IPCR	H01F0027-32 [I,C*]; H01F0027-32 [I,A]; H01B0003-42 [I,C*]; H01B0003-42 [I,A]; H01F0027-02 [I,C*]; H01F0027-02 [I,A]; H01L0023-28 [I,C*]; H01L0023-31 [I,A]; H01L0023-34 [I,C*]; H01L0023-373 [I,A]
BR 8905014	IPCI	H01L0021-00 [ICM,5]

IL 91868 IPCR H01F0027-32 [I,C*]; H01F0027-32 [I,A];
H01B0003-42 [I,C*]; H01B0003-42 [I,A];
H01F0027-02 [I,C*]; H01F0027-02 [I,A];
H01L0023-28 [I,C*]; H01L0023-31 [I,A];
H01L0023-34 [I,C*]; H01L0023-373 [I,A]
IPCI H01B0001-00 [ICM,5]; H01B0003-00 [ICS,5];
H05K0005-06 [ICS,5]
IPCR H01F0027-32 [I,C*]; H01F0027-32 [I,A];
H01B0003-42 [I,C*]; H01B0003-42 [I,A];
H01F0027-02 [I,C*]; H01F0027-02 [I,A];
H01L0023-28 [I,C*]; H01L0023-31 [I,A];
H01L0023-34 [I,C*]; H01L0023-373 [I,A]
ES 2077573 IPCI H01B0003-00 [ICM,6]
IPCR H01F0027-32 [I,C*]; H01F0027-32 [I,A];
H01B0003-42 [I,C*]; H01B0003-42 [I,A];
H01F0027-02 [I,C*]; H01F0027-02 [I,A];
H01L0023-28 [I,C*]; H01L0023-31 [I,A];
H01L0023-34 [I,C*]; H01L0023-373 [I,A]
KR 132052 IPCI H01B0003-00 [ICM,6]; H01F0027-32 [ICS,6]
IPCR H01F0027-32 [I,C*]; H01F0027-32 [I,A];
H01B0003-42 [I,C*]; H01B0003-42 [I,A];
H01F0027-02 [I,C*]; H01F0027-02 [I,A];
H01L0023-28 [I,C*]; H01L0023-31 [I,A];
H01L0023-34 [I,C*]; H01L0023-373 [I,A]

ABSTRACT:

Elec. and electronic devices are encapsulated with an elec. insulator, which in turn is encapsulated with a thermal conductor forming an outer surface of the article. The thermal conductor comprises 10-70 weight% carbon fibers spun from mesophase pitch, with the balance consisting of a resin or a combination of a resin and an **alternate** fiber or filler. Thus, a transformer was encapsulated by injection-molding with Rynite FR 530NC10 [30 weight% chopped glass fiber-reinforced fireproof poly(ethylene terephthalate) (I)] at 280°, and then encapsulated by injection-molding with an outer layer comprising 50 weight% pitch carbon fiber mat-reinforced I at 280°. The doubly encapsulated transformer passed UL 1585 sections 28 (rated secondary current test) and 29 (rated output heating test).

SUPPL. TERM: potting elec app reinforced polyester;
insulator glass fiber reinforced
polyester; carbon fiber reinforced polyester; thermal
conductor polyester carbon fiber;
transformer encapsulation

INDEX TERM: Thermal **conductors**
(carbon fiber-reinforced polyester,
transformers potted with)

INDEX TERM: Electric insulators and Dielectrics
(glass fiber-reinforced polyester, transformers
potted in)

INDEX TERM: Carbon fibers, uses and miscellaneous
ROLE: USES (Uses)

(polyester reinforced by, thermally conductive,
transformers potted with)

INDEX TERM: Transformers
(potted in two stages with elec. insulators and
thermal conductors)

INDEX TERM: Potting
(two-stage, of transformers with glass fiber- and
carbon fiber-reinforced poly(ethylene
terephthalate))

INDEX TERM: 7440-44-0
 ROLE: USES (Uses)
 (carbon fibers, polyester reinforced by, thermally
 conductive, transformers potted with)
 INDEX TERM: 25038-59-9, uses and miscellaneous
 ROLE: USES (Uses)
 (glass fiber-reinforced, elec.
 insulators, transformers potted with)

L57 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1987:11663 HCAPLUS
 DOCUMENT NUMBER: 106:11663
 ENTRY DATE: Entered STN: 11 Jan 1987
 TITLE: Anisotropically conductive film
 INVENTOR(S): Nomura, Kyoji
 PATENT ASSIGNEE(S): Shinto Paint Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 INT. PATENT CLASSIF.:
 MAIN: H01B005-16
 SECONDARY: B32B005-02; B32B015-14; H01R011-01; H05K003-32;
 H05K003-36
 CLASSIFICATION: 76-2 (Electric Phenomena)
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61147407	A	19860705	JP 1984-267008	198412 18
PRIORITY APPLN. INFO.: JP 1984-267008				198412 18

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 61147407	ICM	H01B005-16
	ICS	B32B005-02; B32B015-14; H01R011-01; H05K003-32; H05K003-36
	IPCI	H01B0005-16 [ICM,4]; B32B0005-02 [ICS,4]; B32B0015-14 [ICS,4]; H01R0011-01 [ICS,4]; H05K0003-32 [ICS,4]; H05K0003-36 [ICS,4]
	IPCR	B32B0005-02 [I,A]; B32B0005-02 [I,C*]; B32B0015-14 [I,A]; B32B0015-14 [I,C*]; H01B0005-16 [I,A]; H01B0005-16 [I,C*]; H01R0011-01 [I,A]; H01R0011-01 [I,C*]; H05K0003-32 [I,A]; H05K0003-32 [I,C*]; H05K0003-36 [I,A]; H05K0003-36 [I,C*]

ABSTRACT:

An anisotropically conductive film consists of alternately arranged conductive fiberlike material (e.g., Cu wires) and an insulative fiberlike material (e.g., nylon fibers) in an adhesive sheetlike insulative medium.

SUPPL. TERM: conductor film anisotropic; copper nylon fiber

INDEX TERM: anisotropic conductor
 Polyamide fibers, uses and miscellaneous
 Polyester fibers, uses and miscellaneous
 ROLE: USES (Uses)
 (anisotropic conductor films containing)
 INDEX TERM: Electric conductors
 (anisotropic, films)
 INDEX TERM: 7429-90-5, uses and miscellaneous 7440-22-4, uses
 and miscellaneous 7440-50-8, uses and miscellaneous
 7440-57-5, uses and miscellaneous 9003-07-0,
 Polypropylene 12597-71-6, uses and miscellaneous
 105269-86-1
 ROLE: USES (Uses)
 (anisotropic conductor films containing)

L57 ANSWER 10 OF 13 INSPEC (C) 2007 IET on STN
 ACCESSION NUMBER: 1985:2432696 INSPEC
 DOCUMENT NUMBER: A1985-049174
 TITLE: The effect of electroforming on the
 alternating current behaviour of thin
 amorphous SiOx/V2O5 films
 AUTHOR: Al-Ramadhan, F.A.S.; Hogarth, C.A. (Dept. of
 Phys., Brunel Univ., Uxbridge, UK)
 SOURCE: Physica Status Solidi A (16 Jan. 1985), vol.87,
 no.1, p. 351-4, 14 refs.
 CODEN: PSSABA, ISSN: 0031-8965
 DOCUMENT TYPE: Journal
 TREATMENT CODE: Experimental
 COUNTRY: German Democratic Republic
 LANGUAGE: English
 ABSTRACT: Alternating current measurements are
 described for amorphous SiOx/V2O5 thin films
 before and after electroforming. The AC
 conductance increases and the capacitance
 decreases as a result of an electroforming
 process. The frequency independent conductance
 and frequency dependent inductance observed
 after electroforming are both associated with
 the formation of metallic conducting
 filaments which bridge the
 electrodes across the insulating layer.
 Before electroforming and at low temperatures
 hopping conduction is the dominant conduction
 process
 CLASSIFICATION CODE: A7220F Low-field transport and mobility;
 piezoresistance (semiconductors/insulators);
 A7360 Electrical properties of thin films and
 low-dimensional structures
 CONTROLLED TERM: amorphous state; capacitance; electric
 admittance; electrical conductivity of amorphous
 semiconductors and insulators; electroforming;
 hopping conduction; inductance; silicon
 compounds; thin films; vanadium compounds
 SUPPLEMENTARY TERM: electroforming; alternating current behaviour;
 thin amorphous SiOx/V2O5 films; capacitance;
 frequency independent conductance; frequency
 dependent inductance; metallic conducting
 filaments; insulating layer; hopping conduction
 ELEMENT TERMS: O*Si; SiOx; Si cp; cp; O cp; O*V; V2O5; V cp

L57 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1969:514639 HCAPLUS
 DOCUMENT NUMBER: 71:114639
 ENTRY DATE: Entered STN: 12 May 1984
 TITLE: Multilayer vacuum insulation and its application to a silicon-germanium converter
 AUTHOR(S): Notaro, F.; Nies, G. E.; Hedel, R.
 CORPORATE SOURCE: Linde Div., Union Carbide Corp., Tonawanda, NY, USA
 SOURCE: Proc. Intersoc. Energy Convers. Eng. Conf., 4th (1969), 400-7. Amer. Inst. of Chem. Eng.: New York, N. Y.
 CODEN: 21PXAD
 DOCUMENT TYPE: Conference
 LANGUAGE: English
 CLASSIFICATION: 48 (Unit Operations and Processes)
 ABSTRACT:
 The multilayer (**alternate** layers of foils and spacers) concept of insulation is reviewed. New thermal conductivity data for a system of Ni foil-fibrous quartz paper and for a system of Ni foil-woven quartz spacer is presented. Thermal conds. in vacuum for the 1st system range from 1.5 + 10⁻⁴ Btu./hr. ft.² °F./ft. at low temps. and low mech. loads to 2.6 + 10⁻³ Btu./hr. ft.² °F./ft. at high temps. and high mech. loads. Thermal conds. for the 2nd system vary from 2.5 + 10⁻⁴ to 6 + 10⁻³ Btu./hr. ft.² °F./ft. as mech. loads and temps. are increased. Application of Union Carbide multi-layer insulation to a 5-w. Si-Ge thermoelec. converter designed and built by R.C.A. is described. The use of Super Insulation resulted in the highest converter efficiency; an increase of 35% in efficiency (from 4.9% to 6.6%) over a similar converter insulated with **fibrous** ***insulation.***
 SUPPL. TERM: multilayer vacuum insulation; vacuum insulation
 multilayer; insulation vacuum multilayer
 INDEX TERM: Thermionic devices
 (insulation of silicon-germanium, multilayer of foil-fibrous quartz system in)
 INDEX TERM: Thermal insulators
 (multilayer nickel foil-**fibrous** quartz, thermal **conductivity** of, under vacuum)

L57 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1965:470145 HCAPLUS
 DOCUMENT NUMBER: 63:70145
 ORIGINAL REFERENCE NO.: 63:12851d-e
 ENTRY DATE: Entered STN: 22 Apr 2001
 TITLE: Multilayer thermal insulation
 INVENTOR(S): Paivanas, John A.
 PATENT ASSIGNEE(S): Union Carbide Corp.
 SOURCE: 9 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 US PATENT CLASSIF.: 220009000
 CLASSIFICATION: 21 (Ceramics)
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 3199715

19650810

US 1962-211229

196207

20

PATENT CLASSIFICATION CODES:

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

US 3199715 INCL 220009000
 IPCR B32B0015-08 [I,A]; B32B0015-08 [I,C*];
 C04B0028-00 [I,C*]; C04B0028-24 [I,A];
 E04B0001-76 [I,A]; E04B0001-76 [I,C*];
 F16L0059-06 [I,A]; F16L0059-06 [I,C*];
 F16L0059-08 [I,A]; F16L0059-08 [I,C*];
 F17C0003-00 [I,C*]; F17C0003-08 [I,A];
 F17C0013-00 [I,A]; F17C0013-00 [I,C*]
 NCL 220/560.130; 220/560.100

ABSTRACT:

Multilayer thermal insulation is used to minimize heat inleak to liquefied gases held in vacuum containers. The insulation is based on precompressed sheets of glass fibers with heat-reflecting bodies. Bulking strips of low **conducting fibers** are placed between sheets. This reduces heat conductivity about 50% compared to the glass paper Al-foil combination. Thus glass paper 1.6 g./sq. ft. *****alternating***** with 1/4 mil Al foil, in form of 70 layers with a d. of 5.1 lb./cu. ft. has a thermal conductivity, (K + 10-3, B.t.u./hr./sq. ft./°F./ft.) of 0.021. In contrast glass paper of preceding abstract with 30% Al flakes 1.1 g./sq. ft. **alternating** with 1/4 mil Al foil built up to 117 layers, with a d. of 8.9 lb./cu. ft. has a thermal conductivity of 0.012. Cf. preceding abstract

INDEX TERM: Metals
 (thermal **insulators** from glass **fibers** and)
 INDEX TERM: 7429-90-5, Aluminum
 (thermal **insulators** from glass **fibers** and foil of)

L57 ANSWER 13 OF 13 JAPIO (C) 2007 JPO on STN
 ACCESSION NUMBER: 2004-026595 JAPIO
 TITLE: **CONDUCTIVE FIBER SEPARATION APPARATUS**
 INVENTOR: WASHIZU MASAO; AOKI TAIICHIRO
 PATENT ASSIGNEE(S): ADVANCE CO LTD
 PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 2004026595	A	20040129	Heisei	C01B031-02

APPLICATION INFORMATION

STN FORMAT: JP 2002-186868 20020626
 ORIGINAL: JP2002186868 Heisei
 PRIORITY APPLN. INFO.: JP 2002-186868 20020626
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2004

INT. PATENT CLASSIF.:

MAIN: C01B031-02

ABSTRACT:

PROBLEM TO BE SOLVED: To provide an apparatus which has a simple structure, is small-sized and sorts and separates **conductive fibers** from nonconductive fibers, in particular, an

apparatus which separates conductive nanotubes from nonconductive nanotubes.

SOLUTION: An **electrode** array is disposed in a flow path on a substrate and the **electrode** array is covered with an insulation film from above. When the **fiber** suspended in **insulative** liquid is caused to flow in the flow path while applying an **alternate** voltage to an **electrode**, a current flows through the **conductive fiber**, charge is induced instantaneously and the **conductive fiber** is attached to the **electrode** by an electrostatic force. The current does not flow, on the other hand, through the **insulative fiber**, the sufficient charge is not induced to a semiconductor fiber during a period of the applied **alternate** current and, therefore, the semiconductor fiber is not attached to the **electrode**. In such a manner, only the **conductive fibers** can be sorted.

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